

REMARKS

The Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-20 are currently being prosecuted. Claims 1, 8, 9, and 14 are amended, and claim 20 is added. Claims 1, 8, and 20 are independent. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks set forth herein.

Allowable Subject Matter

The Examiner states that claim 18 and 19 would be allowable if rewritten in independent form including all of the limitations of the base and any intervening claims.

The Applicant thanks the Examiner for the early indication of allowable subject matter in this application. In response, the subject matter of objected-to claim 19 is incorporated into independent claim 8; therefore, independent claim 8 and claims 9-13, which depend directly or indirectly therefrom, should be in condition for allowance. Claim 19 is canceled.

Rejections under 35 U.S.C. §102(e) and §103(a)

Claims 1, 3, 5-13, 14, and 17 stand rejected under 35 U.S.C. §102(e) as being anticipated by Wakao et al. (WO 99/16654). Claims 4, 15, and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wakao et al. in view of Okada (U.S. 5,444,314). These rejections are respectfully traversed.

Amendments to Independent Claims 1 and 8

While not conceding the Examiner's rejections, but merely to advance the prosecution of the present application, independent claims 1 and 8 are amended herein to recite a combination of elements directed to a motor-assisted drive unit including a first control board having a first region overlapped with said motor, and a second region not overlapped with said motor, wherein an area of the first region overlapped with said motor is smaller than an area of the second region not overlapped with said motor.

Full support for a first control board an area of the first region overlapped with said motor is smaller than an area of the second region not overlapped with said motor is illustrated in FIGS. 1, 3, which show first control board 135 having a first region overlapped with the motor 21, and a second region not overlapped with the motor 21, the first region being smaller than the second region. Further, FIGS. 11 and 12 clearly show first control board 302 having a first region overlapped with the motor 21, and a second region not overlapped with the motor 21, the first region being smaller than the second region.

By contrast, a careful study of Wakao et al., Figs. 13 and 14 in particular, indicates that Wakao et al. fail to disclose a first control board 140A having a first region overlapped with said motor, and a second region not overlapped with said motor, wherein an area of the first region overlapped with said motor is smaller than an area of the second region not overlapped with said motor.

Added Independent Claim 20

To set forth additional novel aspects of the present invention, independent claim 20 is added herein to recite a novel combination of elements directed to a motor-assisted drive unit for a vehicle, including a first control board having a first region overlapped with said motor, and a second region not overlapped with said motor, wherein one of the at least one control device is mounted on the second region of the second control board not overlapped with the motor.

Full support for one of the at least one control device being mounted on the second region of the second control board not overlapped with the motor can be found in the specification, for example on page 17, lines 2-3, which discloses “As in the exemplary embodiments in Figs. 1 and 3, the capacitor 29, relay 30, and the like are mounted on the surface of a portion, not overlapped with the motor 21, of the second control board 136....”

By contrast, Wakao et al. do not teach the combinations of elements set forth in independent claims 1 and 20 of the present invention. Further, Okada fails to make up for the deficiencies of Wakao et al.

Therefore, independent claims 1, 8, and 20 should be in condition for allowance. Regarding the dependent claims, which stand rejected under either 35 U.S.C. §102(e) and §103(a), these claims should also be allowable due to their dependence on allowable independent claims 1 and 8, respectively, as well as for the additional novel limitations contained therein. Accordingly, all claims of the present application should be deemed allowable.

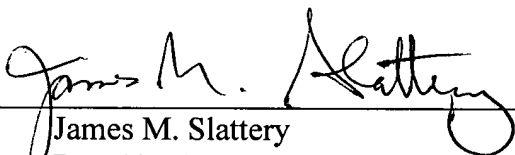
CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
James M. Slattery
Reg. No. 28,380

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Attachments
JMS:CTT:rk/abs/mua



P. O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1, 8, 9 and 14 have been amended as follows:

1. (Three Times Amended) A motor-assisted drive unit for a vehicle, comprising:
a motor having a shaft for providing power to a drive wheel of the vehicle; and
a first control board on which control devices of said motor are mounted, the first control board being arranged substantially perpendicularly to the shaft of said motor, at least part of the first control board extending to a position overlapped with said motor, said first control board having a first region overlapped with said motor, and a second region not overlapped with said motor,

wherein an area of the first region overlapped with said motor is smaller than an area of the second region not overlapped with said motor.

8. (Three Times Amended) A motor-assisted drive unit for a motor-assisted vehicle, comprising:

a motor for providing power to a drive wheel of the vehicle;
a first control board having at least one control device mounted thereon; and
a second control board having at least one control device mounted thereon, wherein the first and second control boards extend in a direction substantially perpendicular to a motor shaft of the motor, said second control board overlapping with at least a part of the

first control board, said first control board having a first region overlapped with said motor, and a second region not overlapped with said motor,

wherein an area of the first region overlapped with said motor is smaller than an area of the second region not overlapped with said motor.

9. (Amended) The motor-assisted drive unit of claim 8, [further comprising a casing,] the motor and the first and the second control boards being disposed in the casing.

14. (Twice Amended) The motor-assisted drive unit of claim 8, [further comprising a casing,] the motor and the first and the second control boards being disposed in the casing, the first control board being attached to an inner wall surface of the casing, and the second control board being disposed over the first control board, with a gap disposed between the first control board and the second control board.

Claim 20 has been added.